

## Water management

Australia's water resources are managed by a multitude of irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the co-ordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, co-operation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumption, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth/States concern or in the national interest.

### Water 2000—A Perspective to the Year 2000

In 1982, the Commonwealth Government commissioned a study to provide a perspective on Australia's water resource needs and problems to the year 2000. The Steering Committee Report and a series of 13 consultants' reports were completed in 1983 and are available for purchase by the general public at Australian Government Publishing Service outlets.

The Water 2000 report indicated in general terms that Australia has sufficient surface and underground water to meet anticipated demands to the year 2000 at reasonable costs; however, regional or local shortages of water supply already occur and will continue.

In a general context, the report identified a number of major issues facing the water industry over the next two decades.

These were:

- protection and improvement of water quality
- more efficient use of currently available water supplies
- conservation of existing water supplies by more appropriate allocation and financial policies
- co-ordinated management and use of water and land resources
- adequate provision for instream uses
- improvements in data collection and analysis and information dissemination
- provision of adequate funding for water resources purposes including research, and
- continuing Commonwealth Government involvement.

Financial constraints, as well as environmental and social considerations were seen likely to lead to an increasing emphasis on greater efficiency in the use of existing supplies including the use of treated wastewater and marginal quality water for non-potable purposes. Substantial scope was seen to exist for improved efficiency in water use, particularly in irrigation.

### *Commonwealth water policy*

In September 1984, the Commonwealth released its new water policy based on the recommendations of the Water 2000 report. Objectives of the new policy are:

- the availability of water, adequate in quantity for all beneficial uses
- the adoption of measures which improve the efficiency of water supply and use
- the development of a comprehensive approach to inter-related water and land management issues
- the encouragement of comprehensive long-term plans for the development and management of water resources, and
- the implementation of financial and economic policies which distribute the costs of water supplies equitably and provide incentives for the more economic use of resources at government and individual level.

As part of the new water policy, funds will continue to be provided to the States under a new program, the Federal Water Resources Assistance Program (FWRAP), to operate as from 1984-85. Funds will be available to the States and the Northern Territory for a range of purposes including:

- water resource development or management activities/projects for agricultural, urban or industrial purposes

- floodplain management
- collaborative information programs
- salinity reduction and land drainage
- State-wide and broad regional water plans, and
- public education.

Funds approved in 1983-84 under the Community Employment Program will continue to be available in 1984-85 for water supply improvement projects in country towns.

### **Research and continuing assessment of water resources**

#### **Australian Water Resources Council (AWRC)**

The Australian Water Resources Council was established in 1963 by joint action of the Commonwealth and State Governments. The Council consists of the Commonwealth and State Ministers who have primary responsibility for water resources; it is chaired by the Commonwealth Minister for Resources and Energy.

The Council provides a forum for the exchange of views on water-related issues, and has been instrumental in promoting co-operation and collaboration on matters of mutual interest to its members. Its terms of reference include the promotion of programs to assess Australia's water resources, the encouragement of education and training in hydrology, the co-ordination and dissemination of information, the promotion of water research and development of liaison with overseas and international organisations in the field of water resources.

The Council is supported by a Standing Committee of permanent heads of relevant State and Commonwealth departments and authorities, and by six permanent technical committees and various fixed-term working groups and panels. Permanent technical committees have been established to tackle ongoing issues in groundwater, surface water, water quality management, catchment management, planning and management, and research and development, while working groups have examined such issues as research needs, education and training and the problem of aquatic weeds.

The AWRC's functions and advisory committee systems are under review to ensure that all important current and emerging issues are fully addressed in this important forum, with a view to developing compatible approaches to matters of mutual and national concern.

See Year Book No. 61, page 869 for further details on the work of the AWRC.

#### **Water resources assessment**

In 1964 in response to a perceived lack of water resources data in all States the Commonwealth Government instituted through the AWRC the National Water Resources Assessment Program. The original aim was to expand the stream gauging network in Australia and increase the level of groundwater knowledge. In 1976 the collection of water quality data was added to the program. The program has been successful in filling many of the data gaps which existed prior to 1964 and in providing data and information for water resources planning, construction projects and in the development of the understanding of the nature and function of Australia's water resources. Discussions are currently underway with the States on the implementation of a new program of water resources data collection and information dissemination.

#### **Water resources research**

The Department of Resources and Energy is primarily responsible for the Commonwealth interests in water resource matters, including research policy and co-ordination at the Commonwealth level. The Department does not perform research, but has provided funds for and has administered a water research program on behalf of the AWRC. \$500,000 has been made available in 1984-85 to support projects of 2-3 years duration in fields such as aquatic biology, effluent treatment, drinking water quality, evapo-transpiration, salinity and soil-water interaction. The AWRC is the major mechanism for the development of Commonwealth/State collaborative water programs.

Water research is undertaken at the Commonwealth level by the Commonwealth Scientific and Industrial Research Organization (CSIRO), the Bureau of Meteorology, the Australian Atomic Energy Commission (AAEC) and the Bureau of Mineral Resources, Geology and Geophysics (BMR). The water research programs of these major national agencies are coordinated through a Water Research Liaison Committee which advises the Ministers of Resources and Energy and of Science and Technology on water research in Commonwealth Government agencies.

At the State level, water agencies have extensive laboratory facilities for water quality testing. However, most water related research is undertaken in research centres associated with agriculture, fisheries, forestry and environmental authorities. At the regional level, some of the larger authorities providing water supply and sewerage services undertake applied research on a very limited scale.